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Patent US 503
Attorney Docket: 612,406-014
(former L&L Ref: 264/217)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Markus Schweitzer et al.

Serial No.: 09/910,469

Filed: July 19, 2001

For: SORTING AND IMMOBILIZATION
SYSTEM FOR NUCLEIC ACIDS USING
SYNTHETIC BINDING SYSTEMS

)
) Group Art Unit: 1634

)
) Examiner: Betty J. Forman

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 CFR §§ 1.97 and 1.98, the items identified in this Information Disclosure Statement ("IDS") are brought to the attention of the Office. The items are listed on the attached form PTO-1449 and copies are enclosed for the convenience of the Examiner.

The items identified in this IDS may or may not be "material" pursuant to 37 CFR § 1.56. The submission thereof by Applicant is not to be construed as an admission that any such patent, publication or other information referred to therein is material or considered to be material (37 CFR § 1.97(h)), or even qualifies as "prior art" under 35 USC § 102 with respect to this invention unless specifically designated by Applicant as such.

01/29/2004 CCHAU1 00000119 502862 09910469
01 FC:1806 180.00 DA

CERTIFICATE OF MAILING (37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

January 21, 2004
Date of Deposit
IR1:1051152.1

Cynthia B. Pacheco
Cynthia B. Pacheco

INFORMATION DISCLOSURE STATEMENT FILING PROVISION:

☐ This IDS is believed to be timely in that it is being submitted under 37 CFR § 1.97(b), that is (1) within three months of the filing date of the application, which is not a continued prosecution application filed under § 1.53(d); or (2) within three months of entry of the national stage as set forth in 37 CFR § 1.491; or (3) before the mailing of a first Office action on the merits; or (4) before the mailing of a first Office action after filing a request for continued examination under § 1.114. Thus, no fee is required.

☐ However, if the undersigned is in error in this regard, Applicant respectfully requests that the Office consider this IDS as filed under 37 CFR § 1.97(c), if applicable, and charge the fee due under 37 CFR § 1.17(p) to the deposit account referenced below.

☐ However, if the undersigned is in error in this regard, Applicant respectfully requests that the Office consider this IDS as filed under 37 CFR § 1.97(c), if applicable, and a statement under 37 CFR § 1.97(e) is included below, thus no fee is required.

☒ This IDS is being submitted under 37 CFR § 1.97(c), that is after mailing of a first Office action on the merits, but before a Final Action under 37 CFR § 1.113 or a Notice of Allowance under 37 CFR § 1.311.

☒ The fee due under 37 CFR § 1.17(p) is submitted herewith.

☐ A statement under 37 CFR § 1.97(e) is included below, thus no fee is required. In the event that this IDS is not received before a Final Action or a Notice of Allowance, then Applicant respectfully requests that the Office consider the filing of these papers to be submitted under 37 CFR § 1.97(d) and charge the fee due under 37 CFR § 1.17(p) to the deposit account below.

☐ This IDS is being submitted under 37 CFR § 1.97(d), that is after a Final Action under 37 CFR § 1.113 or a Notice of Allowance under 37 CFR § 1.311, but before payment of the issue fee. A statement under 37 CFR § 1.97(e) is included below. The fee due under 37 CFR § 1.17(p) is submitted herewith.

Statement Under 37 CFR § 1.97(e):

☐ Each item contained in this IDS was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS.

☐ No item contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this statement after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of this IDS.

PAYMENT AND/OR AUTHORIZATION TO CHARGE FEES:

- ☐ A check in the amount of \$180.00 is enclosed for the above fee(s).
☒ Please charge \$180.00 to Deposit Account No. 50-2862 for the above fee(s).

The Commissioner is authorized to charge any fees required by the filing of these papers, and to credit any overpayment to O'Melveny and Myers' Deposit Account No. 50-2862.

Respectfully submitted,

O'MELVENY & MYERS LLP

Dated: January 21, 2004

By: *Diane K. Wong*
Diane K. Wong
Reg. No. 54,550
Attorneys for Applicant

DKW/cp
114 Pacifica, Suite 100
Irvine, CA 92618-3315
(949) 737-2900

FORM PTO-1449 LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	ATTY. DOCKET NO. 612,406-014 (formerly 264/217)	SERIAL NO. 09/910,469
	APPLICANT: Schweitzer et al.	
	FILING DATE: July 19, 2001	GROUP: 1634

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
							YES	NO
		197 41 716 A	03/25/99	Germany				
		WO 00/4192	06/17/99	WIPO				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)		

IR1:1051150. 1EXAMINER:	DATE CONSIDERED:
EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant	

FORM PTO-1449

ATTY. DCK NO. 264/217 SERIAL NO. 09/910,469

APPLICANT: Markus Schweitzer et al.

FILING DATE: July 19, 2001 GROUP: Not Assigned

LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT

JAN 26 2004

Us several sheets if necessary

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
M	AA	5,763,175	06/09/1998	Brenner	435	6	11/17/1995
L	AB	5,605,662	02/25/1997	Heller et al.	422	68.1	11/01/1993
	AC	6,051,380	04/18/2000	Sosnowski et al.	435	6	12/05/1997

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
							YES	NO
M	AD	86/07387	12/18/1986	WIPO				
	AE	0 305 145 A2	03/01/1989	European Patent Office				
	AF	0 360 940 A2	04/04/1990	European Patent Office				
	AG	Hei 3-151900	06/28/1991	Japan			X	
	AH	93/13223	07/08/1993	WIPO				
	AI	93/13225	07/08/1993	WIPO				
	AJ	93/25563	12/23/1993	WIPO				
	AK	0 360 940 B1	01/31/1996	European Patent Office				
	AL	97/32999	09/12/1997	WIPO				
	AM	97/43232	11/20/1997	WIPO Abstract Only				
	AN	98/25943	06/18/1998	WIPO Abstract Only				
	AO	99/15509	04/01/1999	WIPO Abstract Only				
	AP	99/15539	04/01/1999	WIPO Abstract Only				
	AQ	99/15540	04/01/1999	WIPO Abstract Only				
	AR	99/15541	04/01/1999	WIPO Abstract Only				
	AS	99/15542	04/01/1999	WIPO Abstract Only				
	AT	99/15893	04/01/1999	WIPO Abstract Only				
M	AU	00/11011	03/02/2000	WIPO Abstracting				

EXAMINER: *N* DATE CONSIDERED: *Aug 03*

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

FORM PTO-1449	ATTY. DCK NO. 264/217	SERIAL NO. 09/910,469
LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		APPLICANT: Markus Schweitzer et al.
FILING DATE: July 19, 2001		GROUP: Not Assigned

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES NO	
<i>m</i>	BA	00/58516	10/05/2000	WIPO				
	BB	00/39581	07/06/2000	WIPO	<i>Abstract only</i>			
	BC	00/60124	10/12/2000	WIPO				
<i>n</i>	BD	01/07657 A1	02/01/2001	WIPO				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)		
<i>m</i>	BE	Beier, M. et al., "Chemical Etiology of Nucleic Acid Structure: Comparing Pentopyranosyl-(2'→4') Oligonucleotides with RNA", <i>Science</i> , Vol. 283, pp. 699-703, Jan. 29, 1999.
	BF	Shchepinov, M.S. et al., "Oligonucleotide dendrimers: synthesis and use as polylabelled DNA probes", <i>Nucleic Acids Research</i> , Vol. 25, No. 22, pp. 4447-4454, 1997.
	BG	Gilles, P.N. et al., "Single nucleotide polymorphic discrimination by an electronic dot blot assay on semiconductor microchips", <i>Nature Biotechnology</i> , Vol. 17, pp. 365-370, Apr. 17, 1999.
	BH	Liu, J. et al., "Template-directed photoligation of oligodeoxyribonucleotides via 4-thiothymidine", <i>Nucleic Acids Research</i> , Vol. 26, No. 13, pp. 3300-3304, 1998.
	BI	Green, N. M., "Advances in Protein Chemistry", pp. 85-132, 1975.
	BJ	Chilkoti, A., et al., "Molecular Origins of the Slow Streptavidin - Biotin Dissociation Kinetics", <i>J. Am. Chem. Soc.</i> Vol. 117, pp. 10622-10628, 1995
	BK	Chu, B.C.F. et al., "Ligation of oligonucleotides to nucleic acids or proteins via disulfide bonds", <i>Nucleic Acids Research</i> , Vol. 16, No. 9, pp. 3671-3691, 1988.
	BL	Goodwin, J.T. et al., "Template-Directed Synthesis: Use of a Reversible Reaction", <i>J. Am. Chem. Soc.</i> , Vol. 114, pp. 9197-9198, 1992.
	BM	Gryaznov, S.M. et al., "Chemical Ligation of Oligonucleotides in the Presence and Absence of a Template", <i>J. Am. Chem. Soc.</i> , Vol. 115, pp. 3808-3809, 1993.
	BN	Uhlmann et al., "Antisense Oligonucleotides: A New Therapeutic Principle", <i>Chemical Abstracts</i> , Vol. 90, No. 4, pp. 543-584, 1990.
	BO	Pitsch, S. et al., "147. Why Pentose- and Not Hexose-Nucleic Acids?" <i>Helv. Chim. Acta</i> , Vol. 76, pp. 2161-2183, 1993.
	BP	Pitsch, S. et al., "122. Pyranosyl-RNA ('p-RNA'): Base-Pairing Selectivity and Potential to Replicate", <i>Helv. Chim. Acta</i> , Vol. 78, pp. 1621-1635, 1995.
	BQ	Schlönvogt, I. et al., "188. Pyranosyl-RNA ('p-RNA'): NMR and Molecular-Dynamics Study of the Duplex Formed by Self-pairing of Ribopyranosyl-(C-G-A-A-T-T-C-G)" <i>Helv. Chim. Acta</i> , Vol. 79, pp. 2316-2345, 1996.
	BR	Bolli, M. et al., "131. Pyranosyl-RNA: Further Observations on Replication", <i>Helv. Chim. Acta</i> , Vol. 80, pp. 1901-1951, 1997.
<i>n</i>	BS	Westin, L. et al., "Antimicrobial Resistance and Bacterial Identification Utilizing a Microelectronic Chip Array", <i>J. Clinical Microbiol.</i> , Vol. 39, No. 3, pp. 1097-1104, 2001.

EXAMINER: <i>m</i>	DATE CONSIDERED: <i>Aug 03</i>
EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant	

FORM PTO-1449

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ATTY. DOC. NO.
264/217

SERIAL NO.
09/910,469

APPLICANT:
Mark SCHWEITZER et al.

FILING DATE:
July 19, 2001

GROUP:
1645

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
✓	BT	4,563,419	01/07/1986	Ranki	435	6	12/29/1983
	BU	4,751,177	06/14/1988	Stabinsky	435	6	06/13/1985
	BV	4,787,963	11/29/1988	MacConnell	204	450	05/04/1987
	BW	5,143,854	09/01/1992	Pirrung et al.	436	518	03/07/1990
	BX	5,202,231	04/13/1993	Drmanac et al.	435	6	06/18/1991
	BY	5,219,726	06/15/1993	Evans	435	6	06/02/1989
	BZ	5,632,957	05/27/1997	Heller et al.	422	68.1	09/09/1994
	CA	5,653,939	08/05/1997	Hollis et al	422	50	08/07/1995
	CB	5,695,940	12/09/1997	Drmanac et al.	435	6	06/05/1995
	CC	5,744,305	04/28/1998	Fodor et al.	435	6	06/06/1995
✓	CD	6,051,380	04/18/2000	Sosnowski et al.	435	6	12/05/197

FOREIGN PATENT DOCUMENTS								
EXAM INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
	CE	2156074	10/02/1985	United Kingdom			YES	NO
	CF	86/03782	07/03/1986	WIPO				
	CG	570/87	04/01/1987	Yugoslavia				
	CH	88/10400	05/03/1988	United Kingdom				
	CI	89/10977	11/16/1989	WIPO				
	CJ	90/01564	02/22/1990	WIPO				
	CK	96/13522	05/09/1996	WIPO				
	CL	98/51819	11/19/1998	WIPO				
	CM	99/29711	06/17/1999	WIPO				
	CN	99/42558	08/20/1999	WIPO				

Examiner: Not Yet Assigned

DATE CONSIDERED: Aug 13

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

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(Use several sheets if necessary)

APR 16 2002

APPLICANT:
Mark SCHWEITZER et al.FILING DATE:
July 19, 2001GROUP:
1645

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CO	Anderson and Young, "Quantitative Filter Hybridization," <u>Nucleic Acid Hybridization - A Practical Approach</u> , Eds. B.D. Hames and S.J. Higgins (Washington, D.C.: IRL Press 1985) pp 73-111
CP	Bains, "Setting a Sequence to Sequence a Sequence," <u>BioTechnology</u> , 10:757-758 (1992)
CQ	Barinaga, "Will 'DNA Chip' Speed Genome Initiative?", <u>Science</u> , 253:1489 (1991)
CR	Beattie et al., "Genesensor Technology," <u>The 1992 San Diego Conference: Genetic Recognition</u> , pp 1-5 (Nov, 1992)
CS	Beltz et al., "Isolation of Multigene Families and Determination of Homologies by Filter Hybridization Methods," <u>Methods in Enzymology</u> , 100:266-285 (1983)
CT	Brady, A. et al., <u>J.Chem.Soc., Perkin Trans., 1</u> , 1997, pp. 3237-3253
CU	Cheng J. et al., <u>Nature/Biotechnology</u> , 16, 6/98, pp 541-546 1998
CV	Chu, B.C.F. et al., "Ligation of oligonucleotides to nucleic acids or proteins via disulfide bonds", <u>Nucleic Acids Research</u> , Vol. 16, No. 9, pp. 3671-3691, 1988.
CW	Conner et al., "Detection of Sickle Cell β -Globin Allele by Hybridization With Synthetic Oligonucleotides," <u>Proc. Natl. Acad. Sci. USA</u> , 80:278-282 (1983)
CX	Drmanac et al., "DNA Sequence Determination by Hybridization: A Strategy for Efficient Large-Scale Sequencing," <u>Science</u> , 260: 1649-1652 (1993)
CY	Drmanac et al., "Sequencing of Megabase Plus DNA by Hybridization: Theory of the Method," <u>Genomics</u> , 4:114-128 (1989)
CZ	Edman G.F. et al., <u>Nucleic Acids Research</u> , 25, 1997, 4907-4914
DA	Fodor et al., "Light-Directed, Spatially Addressable Parallel Chemical Synthesis," <u>Science</u> , 251:767-773 (1992)
DB	Fodor et al., "Multiplexed Biochemical Assays With Biological Chips," <u>Nature</u> , 364:555-556 (1993)
DC	Fredericks P.M., et al., <u>Materials Characterization Using FT-IR Spectra. Part 2: Mathematical & Statistical Considerations</u> , <u>Applied Spectroscopy</u> , 39, 2, 1989, p. 311
DD	Ghadiri, M. R. et al., <u>Nature</u> , 366, 1993, pp.324-327
DE	Goodwin, J.T. et al., "Template-Directed-Synthesis: Use of a Reversible Reaction", <u>J. Am. Chem. Soc.</u> , Vol. 114, pp. 9197-9198, 1992.
DF	Guo Z. et al., <u>Nucleic Acids Res.</u> , vol. 22, no. 24, 1994, pp 5456-5465, Direct Fluorescence Analysis Of Genetic Polymorphism By Hybridization With Olognucleotide Arrays
DG	Hayakawa Y. et al, <u>J.Am.Chem.Soc.</u> 112, 1990, 1691
DH	Heller, M.J., <u>IEEE Engineering In Medicine & Biology</u> , March/April 1996, 100-104 An Active Microelectronics Device For Multiplex DNA Analysis
DI	Hue, I., Lehn, J.M., <u>Proc.Nat.Acad.Sci.USA</u> , 94, 1997, pp 2106-2110
DJ	Kozal M.J. et al., <u>Nature Medicine</u> , vol. 2, no. 7, 1996, 753-759
DK	Lehn J.M., <u>J.Chem.Soc. Chem. Commun.</u> , 49; 1990
DL	Malinowski E.R. et al, <u>Factor Analysis In Chemistry</u> , John Wiley & Sons, New York, 1980
DM	Marshall, A. et al, <u>Nature Biotechnology</u> , vol. 16, 1998, pp 27-31
DN	Miculka, C. et al, <u>European BioPharmaceutical Review</u> , 6/98, pp 52-57 1998
DO	Ramsay, G., <u>Nature Biotechnology</u> , vol. 16, 1998, pp 40-44

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APR 19 2002

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Examiner: Not Yet Assigned

DATE CONSIDERED: May 03

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

FORM PTO-1449

ATTY. DOC. NO.
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INFORMATION DISCLOSURE STATEMENTAPPLICANT:
Mark SCHWEITZER et al.FILING DATE:
July 19, 2001GROUP:
1645

APR 16 2002

(Use several sheets if necessary)

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

DP	Ranki et al., "Sandwich Hybridization as a Convenient Method for the Detection of Nucleic Acids in Crude Samples," <u>Gene</u> , 21:77-85 (1983)
DQ	Schlönvogt, I. et al., "18S. Pyranosyl-RNA ('p-RNA'): NMR and Molecular-Dynamics Study of the Duplex Formed by Self-pairing of Ribopyranosyl (C-G-A-A-T-T-C-G)" <u>Helv. Chim. Acta</u> , Vol. 79, pp. 2316-2345, 1996.
DR	Sosnowski R. et al., <u>Proc. Natl. Acad. Sci.</u> , 94, 1997, 1119-1123
DS	Southern et al., "Analyzing and Comparing Nucleic Acid Sequences by Hybridization to Arrays of Oligonucleotides Evaluation Using Experimental Models," <u>Genomics</u> , 13:1008-1017 (1992)
DS	Strezoska et al., "DNA Sequencing by Hybridization: 100 Bases Read by a Non-Gel-Based Method", <u>Proc. Natl. Acad. Sci. USA</u> , 88:10089-93 (1991)
DU	Taylor P. et al, <u>Principles Of Drug Action-The Basis Of Pharmacology</u> , Edited by W.B. Pratt, P. Taylor, Third Edition, Churchill Livingstone, 1990, pp 1-74.
DV	Wallace et al., "Hybridization of Synthetic Oligodexribonucleotides to x 174 DNA: The Effect of Single Base Pair Mismatch," <u>Nucleic Acid Res.</u> , 6:3543-3557 (1979)
DW	Westin, L. et al., "Antimicrobial Resistance and Bacterial Identification Utilizing a Microelectronic Chip Array", <u>J. Clinical Microbiol.</u> , Vol. 39, No. 3, pp. 1097-1104, 2001.
DX	Zhang, Y. et al, <u>J. Am. Chem. Soc.</u> , 116, 1994, pp 1661-1669

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Examiner: Not Yet Assigned

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Information Disclosure Statement - Section 9 PTO-1449

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